

09/206027

Abstract of the Disclosure

The present invention provides a method and apparatus for precleaning a patterned substrate with a plasma comprising a mixture of argon, helium, and hydrogen. Addition of helium to the gas mixture of argon and hydrogen surprisingly increases the etch rate in comparison to argon/hydrogen mixtures. Etch rates are improved for argon concentrations below about 75% by volume. RF power is capacitively and inductively coupled to the plasma to enhance control of the etch properties. Argon, helium, and hydrogen can be provided as separate gases or as mixtures.